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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/802,847	03/12/2001	Sung-jin Kim	030681-288	7816

7590 01/16/2007

Charles F. Wieland III
BURNS, DOANE, SWECKER & MATHIS, L.L.P.
P.O.Box 1404
Alexandria, VA 22313-1404

EXAMINER	
BARQADLE, YASIN M	
ART UNIT	**PAPER NUMBER**
2153	

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	01/16/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary	Application No.	Applicant(s)	
	09/802,847	KIM ET AL.	
	Examiner	Art Unit	
	Yasin M. Barqadle	2153	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *16 October 2006*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-24* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-24* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

Response to Amendment

1. This action is responsive to the amendment filed 10/16/06. Claims 1, 11, 12, 21 and 23 were amended. No other claims were added, amended, or canceled. Accordingly, claims 1-24 are pending.

Response to Amendment

2. The amendment filed on October 16, 2006 has been fully considered but are moot in view of the new ground(s) of rejection.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

4. Claims 1-3, 6-10, 11-13, and 16-24 are rejected under 35 U.S.C. 103(a) as being unpatentable Bell et al. (The Virtual Reality Modeling Language Specification Version 2.0 August 4, 1996, hereinafter ("Bell"') in view of Augenbraun et al. (U.S. Publication Number (20020026642), hereinafter "Augenbraun") further in view of Kostreski et al U.S. Patent Number 6,130,898.

As to claims 1, 11, 21, and 23, Bell shows setting channels between the server and the terminal as initialization: "VRML document server: An application that locates and transmits VRML files and supporting files to VRML client applications (browsers). " (Be11, page 24);

The terminal forming an upstream channel message if a user request of predetermined processing of a predetermined object is occurred in a scene transmitted from the server to the terminal through the downstream channel, and transmitting the message to the server through the upstream channel; the server receiving the upstream channel message, interpreting the message, processing the message ms the user request of predetermined processing, and transmitting the result to the terminal: "The target parameter can be used by the anchor node to send a request to load a UAI into another frame ... An Anchor may be used to bind the viewer to a particular viewpoint in a virtual world by specifying a URL ending with "#viewpointName", where "viewpointName" is the DEF name of a viewpoint defined in the world. For example: ... specifies an anchor that puts the viewer in the "some scene" world bound to the viewpoint named "Overview" when the Box is chosen (note that "Overview" is the name of the viewpoint, not the value of the viewpoint 's description field). " (Be11, page 152);. when the client chooses the box described, a message is formed using the URL and sent to the server, the server responds by sending the resource at the URL destination to the client

the terminal substituting the processing result of step (c) for the predetermined object in the scene transmitted in step (b), and providing it to the user: Refreshing the display when the user receives the result of the user request is inherently implied in a system that displays said request upon receipt.

Although Bell shows substantial features of the claimed invention, he does not explicitly show a downstream/upstream channel.

Nonetheless, this feature is well known in the art and would have been an obvious modification of the system disclosed by Bell, as evidenced by Augenbraun USPN. (20020026642).

In analogous art, Augenbraun is about a system for broadcasting web page and other information on a dedicated downstream channels , disclose plurality of transmission links 15 interconnects the set tops 14 with the distribution network 13. Each of the links 15 is illustrated as being bi-directional with a plurality of downstream channels 16 and one or more upstream channels 17 [fig. 1 and page 2, ¶ 0020].

Giving the teaching of Augenbraun, a person of ordinary skill in the art would have readily recognized the desirability and the advantage of modifying Bell by employing the system of Augenbraun in order to facilitate the broadcasting of web pages and other information over a group of channels plurality of users efficiently.

However Bell and Augenbraun fail to disclose wherein the upstream channel message identifies a corresponding node in the scene in which the user request occurred.

Kosterski et al teaches interactive multi-media broadcasting using multiple upstream/downstream channels in which messages are exchanged to authorize an event. Each such message contains identification of the original requestor along with other information (see col 25, lines 65-67).

It would have been obvious for a person of ordinary skill in the art at the time of the invention to incorporate the teachings of Kostereski into those of Bell and Augenbraun to make the system more efficient. By allowing an upstream channel message to identify a corresponding node in a

scene, the system can focus on remedying the erroneous data and thus reduce the volume of information to be transmitted for restoration.

In referring to claims 2 and 12, Bell in view Augenbraun show substantial features of the claimed invention, including:

Defining the corresponding node in the scene, in which the user request occurred, using information on objects forming the transmitted scene; determining the node identifier of the defined node, using information on the objects (Augenbraun ¶ 0011 and 0031-0032); defining a command to be executed in the server for the defined node, in response to the user request and forming an upstream channel message; Defining a command to be processed in the server, in response to the user request for the defined node (¶ 0024---25 and ¶ 0032); forming un upstream channel message contains the node identifier (Augenbraun ¶ 0011 and 0031-0032).

- In referring to claims 3 and 13,

The information on the objects contains node identifiers based on sequence information or locations of nodes corresponding to the objects in the scene generated based on a binary format: Bell, Table 7-1 shows that the minimum support includes binary files

- In referring to claims 6, 7, 16, and 17,

Receiving the upstream channel message, interpreting the node identifier in the upstream channel message, and defining a subject node to be processed, if a subject node to be processed is defined, confirming a node command in the upstream channel message, and processing the subject node according to the node command: confirming that a requested file exists is inherently implied in a system in which a client requests a file (See Augenbraun ¶ 0014 and 0023-0024).

In referring to claims 8 and 18,

The node interpreter defines a subject node confirming information on nodes directly dependent on the node indicated by the node identifier: Confirming information on nodes directly dependent on the node indicated by the node identifier is inherently implied in a system that has a hierarchical node structure.

In referring to claims 9 and 19,

the node interpreter defines all the nodes in the scene as subject nodes if the node identifier is a value for all the nodes in the scene as subjects: Defining all the nodes in the scene as subject nodes if the node identifier is a value for all the nodes in the scene as subjects is inherently implied in a system that has a hierarchal node structure.

In referring to claims 10 and 20, although Bell shows substantial features of the claimed invention, Bell does not show the use of MPEG-4. Nonetheless this feature is well known in the art and would have been an obvious modification to the system disclosed by Bell. Bell, Table 7-1 shows the minimum support for VRML includes MPEG-I files. A person of ordinary skill in the art would have readily recognized the desirability and advantages of modifying the system of Bell so as to support MPEG-4, in order to take advantage of newer codecs.

In referring to claims 22 and 24,

The upstream channel message is formed to have at least an inherent identifier, which can be confirmed in a server assigned for the predetermined element; a command corresponding to the user request of predetermined processing (See Augenbraun ¶ 0014 and 0023-0025).

5. Claims 4, 5, 14, and 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bell in view Augenbraun and further in view of Tenev et al. (U.S. Patent Number 6,654,761, hereinafter "Tenev".

In referring to claim 4, although Bell shows substantial features of the claimed invention, including the system of claim above, Bell and Augenbraun do not show determining whether or not the defined node is reusable in the scene. Nonetheless this feature is well known in the art and would have been an obvious modification to the system disclosed by Bell and Augenbraun as evidenced by Tenev. In analogous art, Tenev discloses controlling which part of data defining a node-link structure is in memory. Tenev shows determining whether or not the defined node is reusable in the scene: "In modifying which part of node-link data is in memory, the iteration can determine whether to remove any of the node-link data from memory. Upon determining to do so, the iteration can apply a criterion to determine which part to remove. For example, each iteration can receive a navigation signal, and the criterion can be a navigation history criterion. More generally, the criterion can select an element that is least recently traversed, such as from a list of nodes defined by the part of node-link data in memory with the nodes ordered within the list according to how recently each node has been traversed. " (Tenev, col. 2, line 28-38) A system that deletes nodes from memory inherently implies that when a deleted node is requested it would be determined that it needs to be downloaded. When a node is already in memory it would not need to be re-downloaded. Given these teachings, a person of ordinary skill in the art would have readily recognized the desirability and advantages of modifying the system of Bell

and Augenbraun so as to determine whether a node is reusable and only. download the data if it is not, such as taught by Tenev, in order to avoid downloading redundant data.

In referring to claim 5, Bell in view of Tenev shows, . If the defined node and all other nodes in the scene are not reusable, the node identifier of the defined node is determined as a value which is for all nodes ms subjects: A system that determines reusable nodes and then downloads node data inherently implies downloading all non-reusable nodes

In referring to claim 14, although Bell shows substantial features of the claimed invention, including the system of claim 12 (see 102 rejection above), Bell does not show determining whether or not the defined node is reusable in the scene. Nonetheless this feature is well known in the art and would have been an obvious modification to the system disclosed by Bell as evidenced by Tenev. In analogous art Tenev discloses controlling which part of data defining a node-link structure is in memory. Tenev shows determining whether or not the defined node is reusable in the scene: Tenev, col. 2, line 28-38 (see quote above). A system that deletes nodes from memory inherently implies that when a deleted node is requested it would be determined that it needs to be downloaded. When a node is already in memory it would not need to be re-downloaded. Given these teachings, a person of ordinary skill in the art would have readily recognized the desirability and advantages of modifying the system of Bell so as to determine whether a node is reusable and only download the data if it is not, such as taught by Tenev, in order to avoid downloading redundant data.

In referring to claim 15, Bell and Augenbraun in view of Tenev shows,

the node identifier generator sets the node identifier of the defined node to a value for all nodes as subjects, if the defined node and all other nodes in the scene are not reusable: A system that determines reusable nodes and then downloads node data inherently implies downloading all non-reusable nodes

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

The prior made of record and not relied upon is considered pertinent to applicant's disclosure.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Yasin Barqadle whose telephone number is 571-272-3947. The examiner can normally be reached on 9:00 AM to 5:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Glenn Burgess can be reached on 571-272-3949. The fax phone numbers for the organization where this application or proceeding is assigned are 703-872-9306 for regular communications and 703-746-7238 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-305-3900.

Information regarding the status of an application may be obtained form the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either private PAIR or public PAIR system. Status information for unpublished applications is available through private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

YB

Art Unit 2153

RUPAL DHARIA
SUPERVISORY PATENT EXAMINER